



## [Deletion key]

- To delete a number/function, move the cursor to the number/function you wish to delete, then press **[DEL]**. If the cursor is located at the right end of an equation, the **[DEL]** key will function as a back space key.

## Multi-line Playback function [1]

This calculator is equipped with a function to recall previous equations in the normal mode. Equations also include calculation ending instructions such as "=" and a maximum of 142 characters can be stored in memory. When the memory is full, stored equations are deleted in the order of the oldest first. Pressing **[▲]** will display the previous equation and the answer. Further pressing **[▲]** will display preceding equations (after returning to the previous equation, press **[▼]** to view equations in order). In addition, **[2ndF][▲]** can be used to jump to the oldest equation.

- To edit an equation after recalling it, press **[▶]** (**[◀]**).
- To edit the displayed equation, press **[▶]** (**[◀]**) immediately after obtaining a calculation answer.
- The multi-line memory is cleared by the following operations: **[2ndF][CA]**, **[2ndF][OFF]** (including the Automatic Power Off feature), mode change, memory clear (**[2ndF][M-CLR]**), **RESET**, **[2ndF][RANDOM]**, **[ALPHA][RCL]**, **[ANS]**, constant calculation, chain calculation, angle unit conversion, coordinate conversion, N-base conversion, numerical value storage to the temporary memories and independent memory, and input/deletion of statistical data.

## Priority Levels in Calculation

This calculator performs operations according to the following priority: ① Fractions (1÷4, etc.) ② Functions preceded by their argument ( $x^1$ ,  $x^2$ ,  $n!$ , etc.) ③  $Y^x$ ,  $x^{\sqrt{Y}}$  ④ Implied multiplication of a memory value (2Y, etc.) ⑤ Functions followed by their argument (sin, cos, etc.) ⑥ Implied multiplication of a function (2sin30, etc.) ⑦  $nCr$ ,  $nPr$  ⑧  $\times$ ,  $\div$  ⑨  $+$ ,  $-$  ⑩ AND ⑪ OR, XOR, XNOR ⑫  $=$ ,  $M+$ ,  $M-$ ,  $\Rightarrow M$ , **▶DEG**, **▶RAD**, **▶GRAD**, **DATA**, **CD**,  $\rightarrow r\theta$ ,  $\rightarrow xy$  and other calculation ending instructions

- If parentheses are used, parenthesized calculations have precedence over any other calculations.

## INITIAL SET UP

### Mode Selection

Normal mode (NORMAL): **[MODE][0]**

Used to perform arithmetic operations and function calculations.

Statistics mode (STAT): **[MODE][1]**

Used to perform statistical calculations.

When executing mode selection, temporary memories, statistical variables, statistical data and last answer memory will be cleared even when reselecting the same mode.

### SET UP menu

Press **[SETUP]** to display the SET UP menu.

FSE TAB  
0

- A menu item can be selected by:
  - moving the flashing cursor by using **[▶]** **[◀]**, then press **[ENT]** (**=** key), or
  - pressing the number key corresponding to the menu item number.
- If **▲** or **▼** is displayed on the screen, press **[▲]** or **[▼]** to view the previous/next menu screen.
- Press **[ON/C]** to exit the SET UP menu.

### [Selecting the Display Notation and Decimal Places]

The calculator has four display notation systems (Floating point, Fixed decimal point, Scientific notation and Engineering notation) for displaying calculation results.

- When the **FIX**, **SCI**, or **ENG** symbol is displayed, the number of decimal places (TAB) can be set to any value between 0 and 9. Displayed values will be reduced to the corresponding number of digits.
- If a floating point number does not fit in the specified range, the calculator will display the result using the scientific notation (exponential notation) system. See 'Setting the Floating Point Numbers System in Scientific Notation' for details.
- Press **[SETUP]**, followed by **[0]**, to display the following sub-menu:

-FIX SCI ENG → \*NORM1 NORM2  
0 1 2 ▼ 3 4

### [Setting the Floating Point Numbers System in Scientific Notation]

The calculator has two settings for displaying a floating point number: **NORM1** (default setting) and **NORM2**. In each display setting, a number is automatically displayed in scientific notation outside a preset range:

- NORM1**:  $0.000000001 \leq |x| \leq 9999999999$
- NORM2**:  $0.01 \leq |x| \leq 9999999999$

100000÷3=			
[Floating point (NORM1)]	<b>[ON/C]</b> 100000 <b>[÷]</b> 3 <b>[=]</b>	33'333.33333	
→[Fixed decimal point]	<b>[SETUP]</b> 0 0	33'333.33333	
[TAB set to 2]	<b>[SETUP]</b> 1 2	33'333.33	
→[SCientific notation]	<b>[SETUP]</b> 0 1	3.33×10 <sup>04</sup>	
→[ENGineering notation]	<b>[SETUP]</b> 0 2	33.33×10 <sup>03</sup>	
→[Floating point (NORM1)]	<b>[SETUP]</b> 0 3	33'333.33333	
3÷1000=			
[Floating point (NORM1)]	<b>[ON/C]</b> 3 <b>[÷]</b> 1000 <b>[=]</b>	0.003	
→[Floating point (NORM2)]	<b>[SETUP]</b> 0 4	3.×10 <sup>-03</sup>	
→[Floating point (NORM1)]	<b>[SETUP]</b> 0 3	0.003	

## Determination of the Angular Unit

In this calculator, the following three angular units (degrees, radians, and grads) can be specified.



## SCIENTIFIC CALCULATIONS

- Press **[MODE][0]** to select the normal mode.
- In each example, press **[ON/C]** to clear the display. And if the **FIX**, **SCI**, or **ENG** indicator is displayed, clear the indicator by selecting 'NORM1' from the SET UP menu.

### Arithmetic Operations [2]

- The closing parenthesis **)** just before **[=]** or **[M+]** may be omitted.

### Constant Calculations [3]

- In constant calculations, the addend becomes a constant. Subtraction and division are performed in the same manner. For multiplication, the multiplicand becomes a constant.
- When performing calculations using constants, constants will be displayed as K.

### Functions [4]

- Refer to the calculation examples of each function.
- Before starting calculations, specify the angular unit.

### Random Function

The Random function has four settings for use in the normal or statistics mode. (This function cannot be selected while using the N-Base function.) Press **[ON/C]** to exit.

- The generated pseudo-random number series is stored in memory Y. Each random number is based on a number series.

### [Random Numbers]

A pseudo-random number, with three significant digits from 0 up to 0.999, can be generated by pressing **[2ndF][RANDOM][0][ENT]**. To generate the next random number, press **[ENT]**.

### [Random Dice]

To simulate a die-rolling, a random integer between 1 and 6 can be generated by pressing **[2ndF][RANDOM][1][ENT]**. To generate the next random dice number, press **[ENT]**.

### [Random Coin]

To simulate a coin flip, 0 (head) or 1 (tail) can be randomly generated by pressing **[2ndF][RANDOM][2][ENT]**. To generate the next random coin number, press **[ENT]**.

### [Random Integer]

An integer between 0 and 99 can be generated randomly by pressing **[2ndF][RANDOM][3][ENT]**. To generate the next random integer number, press **[ENT]**.

## Angular Unit Conversions [5]

Each time **[2ndF][DRG]** are pressed, the angular unit changes in sequence.

## Memory Calculations [6]

This calculator has 8 temporary memories (A-F, X and Y), one independent memory (M) and one last answer memory (ANS). The independent memory and temporary memories are only available in the normal mode.

### [Temporary memories (A-F, X and Y)]

Press **[STO]** and a corresponding variable key to store a value in memory.

Press **[RCL]** and a corresponding variable key to recall a value from the memory.

To place a variable in an equation, press **[ALPHA]**, followed by a desired variable key.

### [Independent memory (M)]

In addition to all the features of temporary memories, a value can be added to or subtracted from an existing memory value. Press **[ON/C][STO][M]** to clear the independent memory (M).

### [Last answer memory (ANS)]

The calculation result obtained by pressing **[=]** or any other calculation ending instruction is automatically stored in the last answer memory.

Note:

- Calculation results from the functions indicated below are automatically stored in memories X or Y. For this reason, when using these functions, be careful with the use of memories X and Y.
  - Random function ..... Y memory
  - $\rightarrow r\theta$ ,  $\rightarrow xy$  ..... X memory (r or x), Y memory ( $\theta$  or y)
- Temporary memories and last answer memory are cleared even when the same mode is reselected.
- Use of **[RCL]** or **[ALPHA]** will recall the value stored in memory using up to 14 digits.

## Chain Calculations [7]

- This calculator allows the previous calculation result to be used in the following calculation.

- The previous calculation result will not be recalled after entering multiple instructions.
- In the case of utilizing postfix functions ( $\sqrt{\quad}$ ,  $\sin$ , etc.), you can perform a chain calculation even when the previous calculation result is cleared by the use of the  $\text{ON/C}$  key.

### Fraction Calculations [8]

This calculator can perform arithmetic operations and memory calculations using fractions, and conversion between a decimal number and a fraction.

- If the number of digits to be displayed is greater than 10, the number is converted to and displayed as a decimal number.

### Binary, Pental, Octal, Decimal, and Hexadecimal Operations (N-Base) [9]

This calculator can perform conversions between numbers expressed in binary, pental, octal, decimal and hexadecimal systems. It can also perform the four basic arithmetic operations, calculations with parentheses and memory calculations using binary, pental, octal, decimal, and hexadecimal numbers. In addition, the calculator can carry out the logical operations AND, OR, NOT, NEG, XOR and XNOR on binary, pental, octal and hexadecimal numbers.

Conversion to each system is performed by the following keys:

- $\text{2ndF} \rightarrow \text{BIN}$ : Converts to the binary system. "b" appears.
- $\text{2ndF} \rightarrow \text{PEN}$ : Converts to the pental system. "P" appears.
- $\text{2ndF} \rightarrow \text{OCT}$ : Converts to the octal system. "o" appears.
- $\text{2ndF} \rightarrow \text{HEX}$ : Converts to the hexadecimal system. "H" appears.
- $\text{2ndF} \rightarrow \text{DEC}$ : Converts to the decimal system. "b", "P", "o", and "H" disappear from the display.

Conversion is performed on the displayed value when these keys are pressed.

Note: In this calculator, the hexadecimal numbers A – F are entered by pressing  $\text{y}^{\text{A}}$ ,  $\sqrt{\text{B}}$ ,  $\text{X}^2 \text{C}$ ,  $\text{X}^3 \text{D}$ ,  $\log \text{E}$ , and  $\ln \text{F}$ , and displayed as follows:

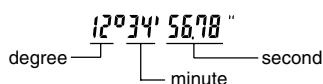
$$A \rightarrow \text{H}, B \rightarrow \text{b}, C \rightarrow \text{I}, D \rightarrow \text{d}, E \rightarrow \text{J}, F \rightarrow \text{f}$$

In the binary, pental, octal, and hexadecimal systems, fractional parts cannot be entered. When a decimal number having a fractional part is converted into a binary, pental, octal, or hexadecimal number, the fractional part will be truncated. Likewise, when the result of a binary, pental, octal, or hexadecimal calculation includes a fractional part, the fractional part will be truncated. In the binary, pental, octal, and hexadecimal systems, negative numbers are displayed as a complement.

### Time, Decimal and Sexagesimal Calculations [10]

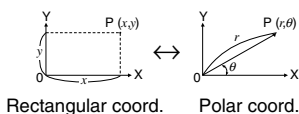
Conversion between decimal and sexagesimal numbers can be performed. In addition, the four basic arithmetic operations and memory calculations can be carried out using the sexagesimal system.

Notation for sexagesimal is as follows:



### Coordinate Conversions [11]

- Before performing a calculation, select the angular unit.



- The calculation result is automatically stored in memories X and Y.  
Value of  $r$  or  $x$ : X memory  
Value of  $\theta$  or  $y$ : Y memory

### Modify Function [12]

In this calculator, calculation results are internally obtained in scientific notation with up to 14 digits for the mantissa. However, since calculation results are displayed in the form designated by the display notation and the number of decimal places indicated, the internal calculation result may differ from that shown in the display. By using the modify function, the internal value is converted to match that of the display, so that the displayed value can be used without change in subsequent operations.

### STATISTICAL CALCULATIONS [13]

Statistical calculations are performed in the statistics mode. Press  $\text{MODE} \rightarrow 1$  to select the statistics mode. This calculator performs the seven statistical calculations indicated below. After selecting the statistics mode, select the desired sub-mode by pressing the number key corresponding to your choice. When changing to the statistical sub-mode, press the corresponding number key after performing the operation to select the statistics mode (press  $\text{MODE} \rightarrow 1$ ).

- 0 (SD) : Single-variable statistics
- 1 (LINE) : Linear regression calculation
- 2 (QUAD) : Quadratic regression calculation
- 3 (EXP) : Exponential regression calculation
- 4 (LOG) : Logarithmic regression calculation
- 5 (PWR) : Power regression calculation
- 6 (INV) : Inverse regression calculation

The following statistics can be obtained for each statistical calculation (refer to the table below):

### Single-variable statistical calculation

Statistics of ①

### Linear regression calculation

Statistics of ① and ② and, in addition, estimate of  $y$  for a given  $x$  (estimate  $y'$ ) and estimate of  $x$  for a given  $y$  (estimate  $x'$ )

### Exponential regression, Logarithmic regression, Power regression, and Inverse regression calculation

Statistics of ① and ②. In addition, estimate of  $y$  for a given  $x$  and estimate of  $x$  for a given  $y$ . (Since the calculator converts each formula into a linear regression formula before actual calculation takes place, it obtains all statistics, except coefficients  $a$  and  $b$ , from converted data rather than entered data.)

### Quadratic regression calculation

Statistics of ① and ② and coefficients  $a$ ,  $b$ ,  $c$  in the quadratic regression formula ( $y = a + bx + cx^2$ ). (For quadratic regression calculations, no correlation coefficient ( $r$ ) can be obtained.) When there are two  $x'$  values, press  $\text{2ndF} \rightarrow \leftarrow$ .

When performing calculations using  $a$ ,  $b$  and  $c$ , only one numeric value can be held.

①	$\bar{x}$	Mean of samples ( $x$ data)
	$s_x$	Sample standard deviation ( $x$ data)
	$\sigma_x$	Population standard deviation ( $x$ data)
	$n$	Number of samples
	$\Sigma x$	Sum of samples ( $x$ data)
	$\Sigma x^2$	Sum of squares of samples ( $x$ data)
②	$\bar{y}$	Mean of samples ( $y$ data)
	$s_y$	Sample standard deviation ( $y$ data)
	$\sigma_y$	Population standard deviation ( $y$ data)
	$\Sigma y$	Sum of samples ( $y$ data)
	$\Sigma y^2$	Sum of squares of samples ( $y$ data)
	$\Sigma xy$	Sum of products of samples ( $x$ , $y$ )
	$r$	Correlation coefficient
	$a$	Coefficient of regression equation
	$b$	Coefficient of regression equation
	$c$	Coefficient of quadratic regression equation

- Use  $\text{ALPHA}$  and  $\text{RCL}$  to perform a STAT variable calculation.

### Data Entry and Correction [14]

Entered data are kept in memory until  $\text{2ndF} \rightarrow \text{CA}$  are pressed or mode selection. Before entering new data, clear the memory contents.

#### [Data Entry]

Single-variable data

Data  $\text{DATA}$   
Data  $(x,y)$  frequency  $\text{DATA}$  (To enter multiples of the same data)

Two-variable data

Data  $x (x,y)$  Data  $y \text{DATA}$   
Data  $x (x,y)$  Data  $y (x,y)$  frequency  $\text{DATA}$  (To enter multiples of the same data  $x$  and  $y$ .)

- Up to 100 data items can be entered. With the single-variable data, a data item without frequency assignment is counted as one data item, while an item assigned with frequency is stored as a set of two data items. With the two-variable data, a set of data items without frequency assignment is counted as two data items, while a set of items assigned with frequency is stored as a set of three data items.

#### [Data Correction]

Correction prior to pressing  $\text{DATA}$  immediately after a data entry:

Delete incorrect data with  $\text{ON/C}$ , then enter the correct data.

Correction after pressing  $\text{DATA}$ :

Use  $\blacktriangle$   $\blacktriangledown$  to display the data previously entered. Press  $\blacktriangledown$  to display data items in ascending (oldest first) order. To reverse the display order to descending (latest first), press the  $\blacktriangle$  key. Each item is displayed with 'X $n$ ' = 'Y $n$ ' = 'N $n$ ' ( $n$  is the sequential number of the data set). Display the data item to modify, input the correct value, then press  $\text{DATA}$ . Using  $(x,y)$ , you can correct the values of the data set all at once.

- When  $\blacktriangle$  or  $\blacktriangledown$  appears, more data items can be browsed by pressing  $\blacktriangle$  or  $\blacktriangledown$ .
- To delete a data set, display an item of the data set to delete, then press  $\text{2ndF} \rightarrow \text{CD}$ . The data set will be deleted.
- To add a new data set, press  $\text{ON/C}$  and input the values, then press  $\text{DATA}$ .

## Statistical Calculation Formulas [15]

Type	Regression formula
Linear	$y = a + bx$
Exponential	$y = a \cdot e^{bx}$
Logarithmic	$y = a + b \cdot \ln x$
Power	$y = a \cdot x^b$
Inverse	$y = a + b \frac{1}{x}$
Quadratic	$y = a + bx + cx^2$

In the statistical calculation formulas, an error will occur when:

- The absolute value of the intermediate result or calculation result is equal to or greater than  $1 \times 10^{100}$ .
- The denominator is zero.
- An attempt is made to take the square root of a negative number.
- No solution exists in the quadratic regression calculation.

## ERROR AND CALCULATION RANGES

### Errors

An error will occur if an operation exceeds the calculation ranges, or if a mathematically illegal operation is attempted. When an error occurs, pressing  $\leftarrow$  (or  $\rightarrow$ ) automatically moves the cursor back to the place in the equation where the error occurred. Edit the equation or press  $\text{ON/C}$  to clear the equation.

### Error Codes and Error Types

Syntax error (Error 1):

- An attempt was made to perform an invalid operation.

Ex. 2  $(2\text{ndF}) \rightarrow 70$

Calculation error (Error 2):

- The absolute value of an intermediate or final calculation result equals or exceeds  $10^{100}$ .
- An attempt was made to divide by 0 (or an intermediate calculation resulted in zero).
- The calculation ranges were exceeded while performing calculations.

Depth error (Error 3):

- The available number of buffers was exceeded. (There are 10 buffers\* for numeric values and 24 buffers for calculation instructions). \*5 buffers in STAT mode.
- Data items exceeded 100 in the statistics mode.

Equation too long (Error 4):

- The equation exceeded its maximum input buffer (142 characters). An equation must be shorter than 142 characters.

## Calculation Ranges [16]

- Within the ranges specified, this calculator is accurate to  $\pm 1$  of the least significant digit of the mantissa. However, a calculation error increases in continuous calculations due to accumulation of each calculation error. (This is the same for  $y^x$ ,  $x\sqrt{\quad}$ ,  $n!$ ,  $e^x$ ,  $\ln$ , etc., where continuous calculations are performed internally.)

Additionally, a calculation error will accumulate and become larger in the vicinity of inflection points and singular points of functions.

- Calculation ranges  
 $\pm 10^{-99} \sim \pm 9.999999999 \times 10^{99}$  and 0.

If the absolute value of an entry or a final or intermediate result of a calculation is less than  $10^{-99}$ , the value is considered to be 0 in calculations and in the display.

## BATTERY REPLACEMENT

### Notes on Battery Replacement

Improper handling of batteries can cause electrolyte leakage or explosion. Be sure to observe the following handling rules:

- Replace both batteries at the same time.
- Do not mix new and old batteries.
- Make sure the new batteries are the correct type.
- When installing, orient each battery properly as indicated in the calculator.
- Batteries are factory-installed before shipment, and may be exhausted before they reach the service life stated in the specifications.

### Notes on erasure of memory contents

When the battery is replaced, the memory contents are erased. Erasure can also occur if the calculator is defective or when it is repaired. Make a note of all important memory contents in case accidental erasure occurs.

### When to Replace the Batteries

**[EL-509W/531W/531WH]** If the display has poor contrast, the batteries require replacement.

**[EL-531WG]** If the display has poor contrast or nothing appears on the display even when  $\text{ON/C}$  is pressed in dim lighting, it is time to replace the batteries.

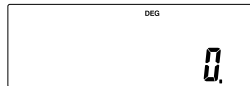
### Cautions

- Fluid from a leaking battery accidentally entering an eye could result in serious injury. Should this occur, wash with clean water and immediately consult a doctor.
- Should fluid from a leaking battery come in contact with your skin or clothes, immediately wash with clean water.
- If the product is not to be used for some time, to avoid damage to the unit from leaking batteries, remove them and store in a safe place.
- Do not leave exhausted batteries inside the product.

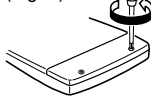
- Do not fit partially used batteries, and be sure not to mix batteries of different types.
- Keep batteries out of the reach of children.
- Exhausted batteries left in the calculator may leak and damage the calculator.
- Explosion risk may be caused by incorrect handling.
- Do not throw batteries into a fire as they may explode.

## Replacement Procedure

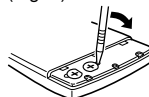
- Turn the power off by pressing  $\text{2ndF}$   $\text{OFF}$ .
  - Remove two screws. (Fig. 1)
  - Slide the battery cover slightly and lift it to remove.
  - [EL-509W/531W/531WG]** Remove the used batteries by prying them out with a ball-point pen or other similar pointed device. (Fig. 2)  
**[EL-531WH]** Remove the used battery.
  - [EL-509W/531W/531WG]** Install two new batteries. Make sure the "+" side is facing up.  
**[EL-531WH]** Install one new battery. First insert the "-" side toward the spring. (Fig. 3)
  - Replace the cover and screws.
  - Press the RESET switch (on the back).
- Make sure that the display appears as shown below. If the display does not appear as shown, remove the batteries re-install them and check the display once again.



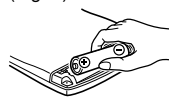
(Fig. 1)



(Fig. 2)



(Fig. 3)



## Automatic Power Off Function

This calculator will turn itself off to save battery power if no key is pressed for approximately 10 minutes.

## SPECIFICATIONS

Calculations:	Scientific calculations, statistical calculations, etc.
Internal calculations:	Mantissas of up to 14 digits
Pending operations:	24 calculations 10 numeric values (5 numeric values in STAT mode)
Power source:	<b>[EL-509W/531W]</b> 3V $\approx$ (DC): Alkaline batteries (LR44 or equivalent) $\times$ 2 <b>[EL-531WG]</b> Built-in solar cells 3 V $\approx$ (DC): Backup batteries (Alkaline batteries (LR44 or equivalent) $\times$ 2) <b>[EL-531WH]</b> 1.5V $\approx$ (DC): Heavy duty manganese battery (size AA or R6) $\times$ 1
Power consumption:	<b>[EL-509W/531W]</b> 0.0002 W <b>[EL-531WH]</b> 0.0001 W
Operating time:	<b>[EL-509W/531W]</b> Approx. 5000 hours <b>[EL-531WH]</b> Approx. 17000 hours when continuously displaying 55555. at 25°C (77°F). Varies according to use and other factors.
Operating temperature:	0°C – 40°C (32°F – 104°F)
External dimensions:	<b>[EL-509W/531W/531WG]</b> 79.6 mm (W) $\times$ 154.5 mm (D) $\times$ 13.2 mm (H) 3-1/8" (W) $\times$ 6-3/32" (D) $\times$ 17/32" (H) <b>[EL-531WH]</b> 79.6 mm (W) $\times$ 154.5 mm (D) $\times$ 18.2 mm (H) 3-1/8" (W) $\times$ 6-3/32" (D) $\times$ 23/32" (H)
Weight:	<b>[EL-509W/531W]</b> Approx. 95 g (0.21 lb) (Including batteries) <b>[EL-531WG]</b> Approx. 97 g (0.22 lb) (Including batteries) <b>[EL-531WH]</b> Approx. 110 g (0.25 lb) (Including battery)
Accessories:	<b>[EL-509W/531W/531WG]</b> Batteries $\times$ 2 (installed), operation manual, quick reference card and hard case <b>[EL-531WH]</b> Battery $\times$ 1 (installed), operation manual, quick reference card and hard case

## FOR MORE INFORMATION ABOUT SCIENTIFIC CALCULATOR

Visit our Web site.

<http://sharp-world.com/calculator/>

**SHARP**  
SHARP CORPORATION

EL-509W  
EL-531W  
EL-531WG  
EL-531WH

CALCULATION EXAMPLES

ANWENDUNGSBEISPIELE

EXEMPLES DE CALCUL

EJEMPLOS DE CÁLCULO

EXEMPLOS DE CÁLCULO

ESEMPLI DI CALCOLO

REKENVOORBEELDEN

PÉLDASZÁMÍTÁSOK

PŘÍKLADY VÝPOČTŮ

RÄKNEESEMPEL

LASKENTAESIMERKKEJÄ

ПРИМЕРЫ ВЫЧИСЛЕНИЙ

UDREGNINGSEKSEMPLER

ตัวอย่างการคำนวณ

نماذج للحسابات

计算例子

CONTOH-CONTOH PENGHITUNGAN

CONTOH-CONTOH PERHITUNGAN

[1] ▲ ▼

① 3(5+2)=	ON/C 3 ( ) 5 + ) 2 ( ) =	21.
② 3×5+2=	3 × 5 + 2 =	17.
③ 3×5+3×2=	3 × 5 + 3 × 2 =	21.
→ ①	2ndF (▲) =	21.
→ ②	▼ =	17.
→ ③	▼ =	21.
→ ②	▲ =	17.

[2] + - × ÷ ( ) +/- Exp

45+285÷3=	ON/C 45 + 285 ÷ 3 =	140.
18+6=	( ) 18 + 6 ( ) ÷	
15-8=	( ) 15 - 8 =	3.428571429
42×(-5)+120=	42 × +/- 5 + 120 =	-90.
	*1 (5 +/-) *1	
(5×10 <sup>3</sup> )+(4×10 <sup>-3</sup> )=	5 (Exp) 3 ÷ 4 (Exp) +/- 3 =	1'250'000.

[3]

34+57=	34 + 57 =	91.
45+57=	45 =	102.
79-59=	79 - 59 =	20.
56-59=	56 =	-3.
56÷8=	56 ÷ 8 =	7.
92÷8=	92 =	11.5
68×25=	68 × 25 =	1'700.
68×40=	40 =	2'720.

[4] sin cos tan sin<sup>-1</sup> cos<sup>-1</sup> tan<sup>-1</sup> π DRG hyp arc hyp  
ln log e<sup>x</sup> 10<sup>x</sup> x<sup>-1</sup> x<sup>2</sup> x<sup>3</sup> √ y<sup>x</sup> x√  
∛ n! nPr nCr %

sin60[°]=	ON/C ( sin 60 =	0.866025403
cos $\frac{\pi}{4}$ [rad]=	DRG ( cos ( ( π ÷ 4 ) =	0.707106781
tan <sup>-1</sup> 1=[g]	DRG (2ndF ( tan <sup>-1</sup> 1 =	50.
(cosh 1.5 + sinh 1.5) <sup>2</sup> =	ON/C ( ( hyp cos 1.5 + ) hyp sin 1.5 ) x <sup>2</sup> =	20.08553692
tanh $\frac{15}{7}$ =	2ndF (arc hyp ( tan ( ( 5 ÷ 7 ) ) =	0.895879734
ln 20 =	ln 20 =	2.995732274
log 50 =	log 50 =	1.698970004
e <sup>3</sup> =	2ndF ( e <sup>x</sup> 3 =	20.08553692
10 <sup>1.7</sup> =	2ndF ( 10 <sup>x</sup> 1.7 =	50.11872336
$\frac{1}{6} + \frac{1}{7}$ =	6 (2ndF ( x <sup>-1</sup> + 7 (2ndF ( x <sup>-1</sup> =	0.309523809
8 <sup>-2</sup> - 3 <sup>4</sup> × 5 <sup>2</sup> =	8 ( y <sup>x</sup> +/- 2 - 3 ( y <sup>x</sup> 4 × 5 ( x <sup>2</sup> =	-2'024.984375
(12 <sup>3</sup> ) $\frac{1}{4}$ =	12 ( y <sup>x</sup> 3 ( y <sup>x</sup> 4 (2ndF ( x <sup>-1</sup> =	6.447419591
8 <sup>3</sup> =	8 ( x <sup>3</sup> =	512.
$\sqrt{49} - \sqrt[4]{81}$ =	√ 49 - 4 (2ndF ( √ 81 =	4.
$\sqrt[3]{27}$ =	2ndF ( √ 27 =	3.
4! =	4 (2ndF ( n! =	24.
$10P_3$ =	10 (2ndF ( nPr 3 =	720.
$5C_2$ =	5 (2ndF ( nCr 2 =	10.
500×25%=	500 × 25 (2ndF ( % =	125.
120÷400=?%	120 ÷ 400 (2ndF ( % =	30.
500+(500×25%)=	500 + 25 (2ndF ( % =	625.
400-(400×30%)=	400 - 30 (2ndF ( % =	280.

- The range of the results of inverse trigonometric functions
- Der Ergebnisbereich für inverse trigonometrische Funktionen
- Plage des résultats des fonctions trigonométriques inverses
- El rango de los resultados de funciones trigonométricas inversas
- Gama dos resultados das trigonométricas inversas
- La gamma dei risultati di funzioni trigonometriche inverse
- Het bereik van de resultaten van inverse trigonometrie
- Az inverz trigonometriai funkciók eredmény-tartományá
- Rozsah výsledků inverzních trigonometrických funkcí
- Omfång för resultat av omvända trigonometriska funktioner
- Käänteisten trigonometristen funktioiden tulosten alue
- Диапазон результатов обратных тригонометрических функций
- Område for resultater af omvendte trigonometriske funktioner
- พื้นที่ของผลลัพธ์ของฟังก์ชันตรีโกณมิติกลับด้าน
- نطاق نتائج النول المتكسبة المعكوسة
- 反三角函数计算结果的范围
- Julat hasil fungsi trigonometri songsang
- Kisaran hasil fungsi trigonometri inversi

	$\theta = \sin^{-1} x, \theta = \tan^{-1} x$	$\theta = \cos^{-1} x$
DEG	$-90 \leq \theta \leq 90$	$0 \leq \theta \leq 180$
RAD	$-\frac{\pi}{2} \leq \theta \leq \frac{\pi}{2}$	$0 \leq \theta \leq \pi$
GRAD	$-100 \leq \theta \leq 100$	$0 \leq \theta \leq 200$

[5] DRG

90° → [rad]	ON/C 90 (2ndF ( DRG	1.570796327
→ [g]	2ndF ( DRG	100.
→ [°]	2ndF ( DRG	90.
sin <sup>-1</sup> 0.8 = [°]	2ndF ( sin <sup>-1</sup> 0.8 =	53.13010235
→ [rad]	2ndF ( DRG	0.927295218
→ [g]	2ndF ( DRG	59.03344706
→ [°]	2ndF ( DRG	53.13010235

**[6]** ALPHA RCL STO M+ M- ANS

A=56	ON/C 56 STO A	56.
B=68	68 STO B	68.
A+2+B×4=	ALPHA A ÷ 2 + ALPHA B × 4 =	300.
24÷(8×2)=	ON/C 8 X 2 STO M 24 ÷ ALPHA M =	16.
(8×2)×5=	ALPHA M X 5 =	80.
\$150×3:M1	ON/C STO M 150 X 3 M+	0. 450.
+) \$250:M2 =M1+250	250 M+	250.
-) M2×5%	RCL M X 5 2ndF % 2ndF M- RCL M	35. 665.
\$1= ¥110	110 STO Y	110.
¥26,510= \$?	26510 ÷ RCL Y =	241.
\$2,750= ¥?	2750 X RCL Y =	302'500.
r = 3cm	3 STO Y	3.
πr <sup>2</sup> = ?	π ALPHA Y X <sup>2</sup> =	28.27433388
(r → Y)		
$\frac{24}{4+6} = 2.4...(A)$	24 ÷ ( 4 + 6 ) =	2.4
3×(A)+60÷(A)=	3 X ALPHA ANS + 60 ÷ ALPHA ANS =	32.2

**[7]**

6+4=ANS	ON/C 6 + 4 =	10.
ANS+5	+ 5 =	15.
8×2=ANS	8 X 2 =	16.
ANS <sup>2</sup>	X <sup>2</sup> =	256.
44+37=ANS	44 + 37 =	81.
√ANS=	√ =	9.

**[8]** a<sup>b/c</sup> d/c

$3\frac{1}{2} + \frac{4}{3} = [a^b_c]$	ON/C 3 a <sup>b/c</sup> 1 a <sup>b/c</sup> 2 + 4 a <sup>b/c</sup> 3 =	4 7 5 6 7 + 4.833333333
→[a.xxx]	a <sup>b/c</sup>	
→[d/c]	2ndF d/c	29 7 6
$10^{\frac{2}{3}}$	2ndF 10 <sup>x</sup> 2 a <sup>b/c</sup> 3 =	4.641588834
$(\frac{7}{5})^5$	7 a <sup>b/c</sup> 5 y <sup>x</sup> 5 =	16807 7 3125
$(\frac{1}{8})^{\frac{1}{3}}$	1 a <sup>b/c</sup> 8 y <sup>x</sup> 1 a <sup>b/c</sup> 3 =	1 7 2
$\sqrt{\frac{64}{225}}$	√ 64 a <sup>b/c</sup> 225 =	8 7 15
$\frac{2^3}{3^4}$	( 2 y <sup>x</sup> 3 ) a <sup>b/c</sup> ( 3 y <sup>x</sup> 4 ) =	8 7 81
$\frac{1.2}{2.3}$	1.2 a <sup>b/c</sup> 2.3 =	12 7 23
$\frac{1^{\circ}2'3''}{2}$	1 D <sup>M</sup> S 2 D <sup>M</sup> S 3 a <sup>b/c</sup> 2 =	0°31'1.5"
$\frac{1 \times 10^3}{2 \times 10^3}$	1 Exp 3 a <sup>b/c</sup> 2 Exp 3 =	1 7 2
A = 7	ON/C 7 STO A	7.
$\frac{4}{A}$	4 a <sup>b/c</sup> ALPHA A =	4 7 7
$1.25 + \frac{2}{5} = [a.xxx]$	1.25 + 2 a <sup>b/c</sup> 5 =	1.65
→[a <sup>b/c</sup> ]	a <sup>b/c</sup>	1 7 13 20
1.65	ON/C 1.65 =	1.65
→[a <sup>b/c</sup> ]	a <sup>b/c</sup>	1 7 13 20
→[d/c]	2ndF d/c	33 7 20
→[a.xxx]	a <sup>b/c</sup>	1.65

\* 4 7 5 6 7 8 = 4  $\frac{5}{6}$

**[9]** BIN PEN OCT HEX DEC NEG NOT AND OR XOR XNOR

DEC(25)→BIN	ON/C 2ndF DEC 25 2ndF BIN	11001 <sup>b</sup>
HEX(1AC)	2ndF HEX 1AC	110101100 <sup>b</sup>
→BIN	2ndF BIN	3203 <sup>P</sup>
→PEN	2ndF PEN	654 <sup>O</sup>
→OCT	2ndF OCT	428.
→DEC	2ndF DEC	
BIN(1010-100)	2ndF BIN ( 1010 - 100 )	10010 <sup>b</sup>
×11 =	X 11 =	
BIN(111)→NEG	NEG 111 =	111111001 <sup>b</sup>
HEX(1FF)+	2ndF HEX 1FF 2ndF OCT +	1511 <sup>O</sup>
OCT(512)=	512 =	349 <sup>H</sup>
HEX(?)	2ndF HEX	
2FEC-	ON/C STO M 2ndF HEX 2FEC -	34E <sup>H</sup>
2C9E=(A)	2C9E M+	
+)2000-	2000 -	6FF <sup>H</sup>
1901=(B)	1901 M+	A4d <sup>H</sup>
(C)	RCL M	
1011 AND	ON/C 2ndF BIN 1011 AND	1 <sup>b</sup>
101 = (BIN)	101 =	
5A OR C3 = (HEX)	2ndF HEX 5A OR C3 =	db <sup>H</sup>
NOT 10110 =	2ndF BIN NOT 10110 =	1111101001 <sup>b</sup>
(BIN)		
24 XOR 4 = (OCT)	2ndF OCT 24 XOR 4 =	20 <sup>O</sup>
B3 XNOR	2ndF HEX B3 XNOR	FFFFFFF61 <sup>H</sup>
2D = (HEX)	2D =	-159.
→DEC	2ndF DEC	

**[10]** D<sup>M</sup>S ↔DEG

12°39'18.05"	ON/C 12 D <sup>M</sup> S 39 D <sup>M</sup> S 18.05	
→ [10]	2ndF ↔DEG	12.65501389
123.678	123.678 2ndF ↔DEG	123°40'40.8"
→ [60]		
3h30m45s +	3 D <sup>M</sup> S 30 D <sup>M</sup> S 45 + 6 D <sup>M</sup> S	
6h45m36s = [60]	45 D <sup>M</sup> S 36 =	10°16'21"
1234°56'12" +	1234 D <sup>M</sup> S 56 D <sup>M</sup> S 12 +	
0°0'34.567" = [60]	0 D <sup>M</sup> S 0 D <sup>M</sup> S 34.567 =	1234°56'47"
3h45m -	3 D <sup>M</sup> S 45 - 1.69 =	
1.69h = [60]	2ndF ↔DEG	2°3'36"
sin62°12'24" = [10]	sin 62 D <sup>M</sup> S 12 D <sup>M</sup> S 24 =	0.884635235

**[11]** →rθ →xy , ←r→

$\begin{cases} x = 6 \\ y = 4 \end{cases} \rightarrow \begin{cases} r = \\ \theta = [^\circ] \end{cases}$	ON/C 6 2ndF → 4 2ndF →rθ [r] 2ndF ←r→ [θ] 2ndF ←r→ [r]	7.211102551 33.69006753 7.211102551
$\begin{cases} r = 14 \\ \theta = 36[^\circ] \end{cases} \rightarrow \begin{cases} x = \\ y = \end{cases}$	14 2ndF → 36 2ndF →xy [x] 2ndF ←r→ [y] 2ndF ←r→ [x]	11.32623792 8.228993532 11.32623792



In Europe:

nCr	$0 \leq r \leq n \leq 9999999999^*$ $0 \leq r \leq 69$ $\frac{n!}{(n-r)!} < 10^{100}$
$\leftrightarrow$ DEG, D°M'S	$0^\circ 0' 0.00001'' \leq  x  < 10000^\circ$
$x, y \rightarrow r, \theta$	$\sqrt{x^2 + y^2} < 10^{100}$
$r, \theta \rightarrow x, y$	$0 \leq r < 10^{100}$ DEG: $ \theta  < 10^{10}$ RAD: $ \theta  < \frac{\pi}{180} \times 10^{10}$ GRAD: $ \theta  < \frac{10}{9} \times 10^{10}$
DRG ▶	DEG→RAD, GRAD→DEG: $ x  < 10^{100}$ RAD→GRAD: $ x  < \frac{\pi}{2} \times 10^{98}$
→DEC →BIN →PEN →OCT →HEX AND OR XOR XNOR	DEC : $ x  \leq 9999999999$ BIN : $1000000000 \leq x \leq 1111111111$ $0 \leq x \leq 1111111111$ PEN : $2222222223 \leq x \leq 4444444444$ $0 \leq x \leq 2222222222$ OCT : $4000000000 \leq x \leq 7777777777$ $0 \leq x \leq 3777777777$ HEX : FDABF41C01 $\leq x \leq$ FFFFFFFF $0 \leq x \leq 2540BE3FF$
NOT	BIN : $1000000000 \leq x \leq 1111111111$ $0 \leq x \leq 1111111111$ PEN : $2222222223 \leq x \leq 4444444444$ $0 \leq x \leq 2222222221$ OCT : $4000000000 \leq x \leq 7777777777$ $0 \leq x \leq 3777777777$ HEX : FDABF41C01 $\leq x \leq$ FFFFFFFF $0 \leq x \leq 2540BE3FE$
NEG	BIN : $1000000001 \leq x \leq 1111111111$ $0 \leq x \leq 1111111111$ PEN : $2222222223 \leq x \leq 4444444444$ $0 \leq x \leq 2222222222$ OCT : $4000000001 \leq x \leq 7777777777$ $0 \leq x \leq 3777777777$ HEX : FDABF41C01 $\leq x \leq$ FFFFFFFF $0 \leq x \leq 2540BE3FF$

\* n, r: integer / ganze Zahlen / entier / entero / inteiro / intero / geheel getal / egész számok / celé číslo / helta / kokonaisluku / целые / heltal / จำนวนเต็ม / عدد صحيح / 整数 / integer / bilangan bulat

This equipment complies with the requirements of Directive 89/336/EEC as amended by 93/68/EEC.  
Dieses Gerät entspricht den Anforderungen der EG-Richtlinie 89/336/EWG mit Änderung 93/68/EWG.  
Ce matériel répond aux exigences contenues dans la directive 89/336/CEE modifiée par la directive 93/68/CEE.  
Dit apparaat voldoet aan de eisen van de richtlijn 89/336/EEG, gewijzigd door 93/68/EEG.  
Dette udstyr overholder kravene i direktiv nr. 89/336/EEC med tillæg nr. 93/68/EEC.  
Quest' apparecchio è conforme ai requisiti della direttiva 89/336/EEC come emendata dalla direttiva 93/68/EEC.  
Η εγκατάσταση αυτή ανταποκρίνεται στις απαιτήσεις των οδηγιών της Ευρωπαϊκής Ένωσης 89/336/ΕΟΚ, όπως ο κανονισμός αυτός συμπληρώθηκε από την οδηγία 93/68/ΕΟΚ.  
Este equipamento obedece às exigências da directiva 89/336/CEE na sua versão corrigida pela directiva 93/68/CEE.  
Este aparato satisface las exigencias de la Directiva 89/336/CEE modificada por medio de la 93/68/CEE.  
Denna utrustning uppfyller kraven enligt riktlinjen 89/336/EEC så som kompletteras av 93/68/EEC.  
Dette produktet oppfyller betingelsene i direktivet 89/336/EEC i endringen 93/68/EEC.  
Tämä laite täyttää direktiivin 89/336/EEC vaatimukset, jota on muutettu direktiivillä 93/68/EEC.  
Данное устройство соответствует требованиям директивы 89/336/ЕЕС с учетом поправок 93/68/ЕЕС.  
Ez a készülék megfelel a 89/336/EGK sz. EK-irányelvben és annak 93/68/EGK sz. módosításában foglalt követelményeknek.  
Tento přístroj vyhovuje požadavkům směrnice 89/336/EEC v platném znění 93/68/EEC.

Nur für Deutschland/For Germany only:

**Umweltschutz**  
Das Gerät wird durch eine Batterie mit Strom versorgt. Um die Batterie sicher und umweltschonend zu entsorgen, beachten Sie bitte folgende Punkte:  
• Bringen Sie die leere Batterie zu Ihrer örtlichen Mülldeponie, zum Händler oder zum Kundenservice-Zentrum zur Wiederverwertung.  
• Werfen Sie die leere Batterie niemals ins Feuer, ins Wasser oder in den Hausmüll.


Seulement pour la France/For France only:

**Protection de l'environnement**  
L'appareil est alimenté par pile. Afin de protéger l'environnement, nous vous recommandons:  
• d'apporter la pile usagée ou à votre revendeur ou au service après-vente, pour recyclage.  
• de ne pas jeter la pile usagée dans une source de chaleur, dans l'eau ou dans un vide-ordures.

Endast svensk version/For Sweden only:

**Miljöskydd**  
Denna produkt drivs av batteri. Vid batteribyte skall följande iakttagas:  
• Det förbrukade batteriet skall inlämnas till er lokala handlare eller till kommunal miljöstation för återinsamling.  
• Kasta ej batteriet i vattnet eller i hushållssoporna. Batteriet får ej heller utsättas för öppen eld.

OPMERKING: ALLEEN VOOR NEDERLAND/  
NOTE: FOR NETHERLANDS ONLY

 Batterij niet weggooien, maar inleveren als KCA. 